NASA GSFC Advanced Mission Automation Branch (Code 583)

ASSET SYSTEM TEST PLAN AND PROCEDURES

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Advanced Ssr SchEduling Tool (ASSET)
Test Plan and Procedures

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Document Summary

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Document Change History Log

Date of Change	Ver	Summary of Change
	1.0	Initial Release
March 27, 2003	2.0	Modifications for Release 2.0 of ASSET
April 30, 2003	3.0	Modifications for Release 3.0 of ASSET

Approvals

Title	Name	Signature	Date

Table of Contents

1 Test Plan

1.1 Introduction

During each test period of the ASSET development cycle, the test procedures defined below will be used to evaluate the ASSET software. Note that each Test Case is based on functionality identified in the SPLAT Requirements, Architecture, or Design documents or the ASSET Delta Requirements, Architecture or Design documents. The test cases are marked in turn for the applicability to one or more of the releases for the ASSET follow-on work. The next section contains a checklist to be used in testing.

A printed copy of the Tester's Check List is to be used during each test Release. The final, completed copy is to be submitted to the Project Leader for approval.

1.2 ASSET Test Check List

Directions: Review each test case. If testing is not appropriate, simply write "N/A" in the Comments section. For example, during Release1 testing, all Release II and III Test Cases should be marked "N/A".

Test Case	Release	Pass	Fail	Tested By	Comments
1	All	X		JMR	
2	All	X		JMR	
3	All	X		JMR	
4	All	X		JMR	
5	All	X		JMR	
6	All	X		JMR	
7	All	X		JMR	
8	All	X		JMR	
9	All	X		JMR	
10	All	X		JMR	
11	All	X		JMR	
12	All	X		JMR	
13	All	X		JMR	
14	All	X		JMR	
15	All	X		JMR	
16	All	X		JMR	
17	All	X		JMR	
18	II	X		JMR	
19	II	X		JMR	
20	II	X		JMR	
21	II	X		JMR	
22	II	X		JMR	
23	II	X		JMR	
24	II	X		JMR	
25	II	X		JMR	
26	II	X		JMR	
27	III				

The test procedures were completed on _____ using Release _3.0_ of ASSET.

Signature _____

2 Test Procedures

The Test Cases in Section 2 correspond to Use Cases and exercise the functionality of the SPLAT tool. Note that following test data sets will be used to validate the operation of the SPLAT tool. With the exception of the ASTER test, all of the test scenarios represent actual events and were provided by the Terra FOT.

1. Roll Maneuver for day 180 of 2002.
2. Roll Maneuver for day 210 of 2002.
3. DMU event for day 219 of 2002.
4. ASTER test scenario (Aquilent generated)
5. MODIS Yaw Maneuver for day 340 of 2002.
6. MODIS Yaw Maneuver for day 341 of 2002.
7. MODIS Yaw Maneuver for day 345 of 2002.
8. Copy of Roll Maneuver for day 180 of 2002 modified for overlapping ground and TDRS contacts.
9. Copy of Roll Maneuver for day 180 of 2002 modified to test new report formats.
10. Copy of Roll Maneuver for day 180 of 2002 modified to test multiple reports.
11. Copy of Roll Maneuver for day 180 of 2002 modified to having overlapping data in reports.

2.1 Test Case: 1 Parse Input Reports

2.1.1 Relevant Release

This test case is relevant to all ASSET releases.

2.1.2 Test Information

Goal in Context:	The Operator selects the Create Contact List button from the main viewer tool bar.
Pre-conditions:	Scheduling Options and Input Reports have been specified.
Success End Condition:	Events are extracted from the input reports and displayed on the main timeline.
Failed End Condition:	Timeline remains empty and system displays an error dialog indicating problem encountered.
Primary Actor:	Operator

2.1.3 Test Scenario

The following variations must be addressed:

1. Manual Aster Modeling with no Ground Contacts

    - Select the “Edit Scheduling Options” option from the tool bar.
    - Enter the Plan Start, Plans Stop, and Sync Point Offset
    - Select “Fixed Rate” for the Aster Modeling mode.
    - Specify a modeling percentage for Aster (0-100).
    - Select the “Select Reports” button.
    - Provide entries for the Integrated Report, Orbital Events Report, and the SSR Buffer States Report.
    - Select the “Create Contacts” option from the tool bar.
    - Review the events on the timeline to make sure all selected events are present and that they fall within the specified plan horizon.
    - Ensure that SYNC_POINT event is now labeled “SYNC_PB” and contains playback durations for each buffer and a total duration for all buffers in the Stn/Arg field.
    - Ensure that Red and Yellow checks have been performed and are correct for ASTER, MISR, and MODIS percentages of the selected sync point.
    - Open the Synchronization Point Selection Dialog and make sure all buffer state entries for the sync point offset window are present.

2. Automated Aster Modeling with no Ground Contacts

- Select the “Edit Scheduling Options” option from the tool bar.
- Enter the Plan Start, Plans Stop, and Sync Point Offset
- Select “ATC” for the Aster Modeling mode.
- Select the “Select Reports” button.
- Provide entries for the ATC Load Report, Integrated Report, Orbital Events Report, and the SSR Buffer States Report
- Select the “Create Contacts” option from the tool bar.
- Review the events on the timeline to make sure they fall within the specified plan horizon.
- Ensure that SYNC_POINT event is now labeled “SYNC_PB” and contains playback durations for each buffer and a total duration for all buffers in the Stn/Arg field.
- Ensure that Red and Yellow checks have been performed and are correct for ASTER, MISR, and MODIS percentage of the selected sync point.
- Open the Synchronization Point Selection Dialog and make sure all buffer state entries for the sync point offset window are present.

3. Manual Aster Modeling with Ground Contacts

- Select the “Edit Scheduling Options” option from the tool bar.
- Enter the Plan Start, Plans Stop, and Sync Point Offset
- Select “Fixed Rate” for the Aster Modeling mode.
- Specify a modeling percentage for Aster (0-100).
- Select the “Select Reports” button.
- Provide entries for the Integrated Report, Orbital Events Report, the SSR Buffer States Report, and the GN Report
- Select the “Create Contacts” option from the tool bar.
- Review the events on the timeline to make sure they fall within the specified plan horizon.
- Ensure that SYNC_POINT event is now labeled “SYNC_PB” and contains playback durations for each buffer and a total duration for all buffers in the Stn/Arg field.
- Ensure that Red and Yellow checks have been performed and are correct for ASTER, MISR, and MODIS percentage of the selected sync point.
- Open the Synchronization Point Selection Dialog and make sure all buffer state entries for the sync point offset window are present.

4. Automated Aster Modeling with Ground Contacts

- Select the “Edit Scheduling Options” option from the tool bar.
- Enter the Plan Start, Plans Stop, and Sync Point Offset
- Select “ATC” for the Aster Modeling mode.
- Specify a modeling percentage for Aster (0-100).
- Select the “Select Reports” button.
- Provide entries for the ATC Load Report, Integrated Report, Orbital Events Report, the SSR Buffer States Report, and the GN Report
- Select the “Create Contacts” option from the tool bar.

- Review the events on the timeline to make sure they fall within the specified plan horizon.
- Ensure that SYNC_POINT event is now labeled “SYNC_PB” and contains playback durations for each buffer and a total duration for all buffers in the Stn/Arg field.
- Ensure that Red and Yellow checks have been performed and are correct for ASTER, MISR, and MODIS percentage of the selected sync point.
- Open the Synchronization Point Selection Dialog and make sure all buffer state entries for the sync point offset window are present.

2.2 Test Case: 2 Specifying Scheduling Options

2.2.1 Relevant Builds

This test case applies to all releases of ASSET.

2.2.2 Test Information

Goal in Context:	Operator enters the options needed from schedule generation.
Success End Condition:	A valid set of scheduling options is selected.
Failed End Condition:	The scheduling options dialog remains active and a dialog box is displayed containing the error condition.
Primary Actor:	Operator

2.2.3 Test Scenario

The following variations must be addressed:

1. Manual Aster Modeling

   - Select the “Edit Scheduling Options” operation from the tool bar.
   - Enter the plan start time (e.g. 2002/180/11:30:00)
   - Enter the plan stop time (e.g. 2002/180/15:55:00)
   - Enter the sync point offset (e.g. 02:30. Specified as hours and minutes)
   - Select “Fixed Rate” for the ASTER Modeling Mode.
   - Specify an Aster modeling percentage (0-100).
   - Select the Reports Location option and choose either Local or MMS. Observe that selection of the MMS option should result in an information dialog raised to indicate that the connection to MMS is a future enhancement.
   - Select the Local Reports Option and select the Specify Reports option.
   - A dialog will be raised for specifying input reports.
   - Browse to the correct directory and locate the AM Integrated Report, the SSR Buffer States Reports, and the AM1 Orbital Events. No entry is required for the GN Report unless Ground Contacts are needed.
   - Select the “Ok” button and the dialog is dismissed.
   - Select the “Save” button on the Scheduling Options UI and the values are checked for validity. Verify that the dialog is dismissed and no error dialog is displayed.

2. Automated Aster Modeling

   - Select the “Edit Scheduling Options” operation from the tool bar.
   - Enter the plan start time (e.g. 2002/180/11:30:00)

- Enter the plan stop time (e.g. 2002/180/15:55:00)
- Enter the sync point offset (e.g. 02:30. Specified as hours and minutes)
- Select “ATC” for the ASTER Modeling Mode.
- Observe that the ASTER modeling percentage field is disabled.
- Select the Reports Location option and choose either Local or MMS. Observe that selection of the MMS option should result in an information dialog raised to indicate that the connection to MMS is a future enhancement.
- Select the Local Reports Option and select the Specify Reports option.
- A dialog will be raised for specifying input reports.
- Browse to the correct directory and locate the ATC Load Report, AM1 Integrated Report, the SSR Buffer States Reports, and the AM1 Orbital Events. No entry is required for the GN Report unless Ground Contacts are needed.
- Select the “Ok” button and the dialog is dismissed.
- Select the Save button on the Scheduling Options UI and the values are checked for validity. Verify that the dialog is dismissed and no error dialog is displayed.

2.3 Test Case: 3 Adding a Dump Window to a Contact

2.3.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.3.2 Test Information

Goal in Context:	Operator selects the Add button for one of the K or X band contacts on the timeline.
Preconditions:	A schedule with a minimum of X or K band contact is displayed on the timeline.
Success End Condition:	A new dump window is added to the contact period.
Failed End Condition:	An error dialog is displayed describing the problem.
Primary Actor:	Operator

2.3.3 Test Scenario

1. Select the “Add” button for one of the K or X band contacts on the timeline.
2. In the dialog specify the start and stop of the playback, the location (AOS or LOS), whether or not to allow partial 4000 playbacks in this dump window, and the maximum dump percentages for the MODIS, MISR and ASTER buffers.
3. Verify that omitting any entry will result in an error dialog being displayed on save.
4. Also very that dump percentages < 0 or > 100 will result in error on save.
5. Verify that entering a stop time or end time outside of the parent contact will result in an error dialog on save.
6. Verify that ASSET will not allow entry of a dump window prior to the selected sync point.
7. Verify that the dump window is displayed on the timeline when the data specified is valid.
8. Verify that the schedule is re-generated.

2.4 Test Case: 4 Edit an Existing Dump Window

2.4.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.4.2 Test Information

Goal in Context:	Operator Selects the Edit Button for one of the dump windows on the timeline
Preconditions:	A valid schedule with one or more dump windows is visible on the timeline.
Success End Condition:	A modified dump window is displayed on the timeline
Failed End Condition:	An error dialog is raised describing the error.
Primary Actor:	Operator

2.4.3 Test Scenario

1. Select the “Edit” button for one of the dump windows on the timeline.
2. Verify that a dialog box is raised containing the selected dump window settings.
3. Modify one or more of the dump window settings (start, stop, max dump percentages). Verify that incorrect entries result in an error dialog being displayed.
4. Select the “Save” option and verify that dialog is dismissed and the modified dump window is displayed on the timeline.
5. Verify that any playbacks in the modified dump window have been removed from the timeline, and the schedule is re-generated.
6. Verify that the “Edit” label for the modified dump window has been changed to “**Edit**”.

2.5 Test Case: 5 Delete an Existing Dump Window

2.5.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.5.2 Test Information

Goal in Context:	The Operator removes a dump window from the schedule.
Preconditions:	A valid schedule with one or more dump windows must be present and visible on the timeline.
Success End Condition:	The schedule with the dump window removed
Failed End Condition:	The dump window is not removed and an error dialog is displayed.
Primary Actor:	Operator

2.5.3 Test Scenario

1. Select the “Edit” button for one of the dump windows on the timeline.
2. Verify that the raised dialog contains the selected dump window information.
3. Select the “Delete” button.
4. Verify that the dialog box is dismissed, the dump window is removed from the timeline, and the schedule is re-generated.

2.6 Test Case: 6 Select Synchronization Point

2.6.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.6.2 Test Information

Goal in Context:	Operator selects a different synchronization point than the one selected by the tool.
Preconditions:	The contact list must have been created and the scheduling options specified.
Success End Condition:	A new synchronization point is selected and displayed on the timeline
Failed End Condition:	An error dialog is raised indicating the error
Primary Actor:	Operator

2.6.3 Test Scenario

The following variations must be tested:

1. Select an existing sync point

    - Select the “Select Synchronization Point” option from the tool bar.
    - Click the radio button next to the desired sync point to select it.
    - Select the “Save” Option.
    - Verify that a warning dialog is raised notifying the operator that selecting a new sync point requires the schedule be re-generated.
    - Verify the following:
        - The synchronization point changes on the timeline.
        - Dump windows are added/removed depending on the selected sync point.
        - Playback windows for existing dump windows are removed.

2. Select an existing sync point in a contact too short to completely empty the buffers.

    - The Operator Selects the “Select Synchronization Point” option from the tool bar.
    - The Operator clicks the radio button next to a sync point in a contact too short to empty the buffers.
    - The Operator selects the “Save” Option.
    - Verify that a dialog is raised notifying the operator that the contact is too short to completely empty the buffers and prompting them on whether or not to continue.

- If the operator answers no, verify that the sync point remains the same and a information dialog is raised telling the operator to select a sync point.
- If the operator answers yes, verify that a warning dialog is raised notifying the operator that selecting a new sync point requires the schedule be re-generated.
- Verify the following:
    - The synchronization point changes on the timeline.
    - Dump windows are added/removed depending on the selected sync point.
    - Playback windows for existing dump windows are removed.

3. Specify a new sync point

- The Operator selects the “Select Synchronization Point” option from the tool bar.
- The Operator selects the “Set Manual Option”.
- Verify that the tool raises a dialog for the user to specify a sync point.
- The Operator enters a date/time string for the sync point and selects the save option.
- Verify that the system raises an error dialog if the specified sync point time does not fall in an X or K band contact.
- The Operator selects the “Save” option.
- Verify that a warning dialog is raised notifying the operator that selecting a new sync point requires the schedule be re-generated.
- Verify the following:
    - The synchronization point changes on the timeline.
    - Dump windows are added/removed depending on the selected sync point.
    - Playback windows for existing dump windows are removed.

2.7 Test Case: 7 Main Window

2.7.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.7.2 Test Information

Goal in Context:	The Operator starts ASSET.
Preconditions:	A functioning computer which supports Java 2; correct installation of ASSET.
Success End Condition:	The operator sees a splash window identifying the ASSET product followed by the display of the ASSET main window.
Failed end conditions:	The main window fails to be displayed or a fatal exception is thrown.
Primary Actor:	Operator

2.7.3 Test Scenario

1. Verify that during startup, the ASSET splash screen is displayed with the ASSET logo and messages indicating the progress.
2. Verify that the ASSET Main Window is displayed and is ready for operator input/schedule generation.

2.8 Test Case: 8 Automated Dump Window Determination

2.8.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.8.2 Test Information

Goal in Context:	The operator selects the "Create Contacts" option from the toolbar and the tool determines the appropriate locations for an initial set of dump windows.
Preconditions:	ASSET is executing and valid scheduling options have been entered.
Success End Condition:	A parsed schedule is displayed containing an initial set of dump windows determined by the tool.
Failed end condition:	No schedule is displayed.
Primary Actor:	Operator

2.8.3 Test Scenario

1. Select the 'Create Contact List" Operation from the tool bar.
2. Review the tool selected dump windows on the timeline.
3. Verify that dump windows are placed only in contact not specified as non-schedulable. The Station Management dialog contains a list of available contact types and whether or not to schedule playbacks within each type.
4. Verify that dump window start times and end times adhere to the dump window offset rules detailed in the Dump Window offsets dialog. Refer to Test Case 20 for more information.

2.9 Test Case: 9 Automated Sync Point Selection

2.9.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.9.2 Test Information

Goal in Context:	The operator reviews the system selected synchronization point
Preconditions:	The Scheduling Options must be specified and a contact list created.
Success End Condition:	All buffer state entries in the sync point offset window must be present.
Failed end condition:	All entries are not available
Primary Actor:	Operator

2.9.3 Test Scenario

1. After creating a contact list, the operator selects the “Specify Selected Sync Point” option.
2. Verify that all buffer state entries in the sync point offset window are displayed in the sync point parameters dialog.
3. Verify that the selected sync point is the earliest contact after the start of the planning horizon and before the end of the offset period in which the buffers can be completely emptied.
4. Verify that none of the sync point candidates fall in a contact periods that are not selected for dump scheduling. Refer to test case
5. Verify that the start times of the candidate sync points adhere to the offsets specified for playbacks in the different contact types. Refer to test case 20 for a description of the dump window offsets.
6. Verify that Red and Yellow limit checks on sync point buffer settings are correct.

2.10 Test Case: 10 Generate a Schedule

2.10.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.10.2 Test Information

Goal in Context:	The operator schedules playbacks.
Preconditions:	A contact list must be created and displayed on the timeline.
Success End Condition:	The completed schedule is displayed to the operator on the timeline.
Failed End Condition:	The timeline remains unchanged. A dialog box is displayed describing the error.
Primary Actor:	Operator

2.10.3 Test Scenario

1. Select the “Generate Schedule” option from the menu bar.
2. Verify that each dump window contains a playback window.
3. Verify that the playback window is offset from the start of the dump window by the correct amount.
4. Verify against a known scenario (one of the provided test data sets) that the tool is correctly calculating buffer full percentages, and playback durations.
5. Verify that the correct argument is placed in the Stn/Arg field for each PB_START event. For dump windows where no dump percentages are specified (PBFLEX) dumps, this value will be the time between the start of the playback and the end of the corresponding dump window to which it belongs. For dump windows that specify maximum dump percentages, this value will be the dump percentage for MODIS, MISR, and ASTER separated by commas.
6. Verify that the duration for each playback represents the time between the last playback start and the current playback start.
7. Verify that the time specified in the TOT column represents the sum of the times specified in the MOD, MIS, and AST columns.
8. Verify that any data that needs to be carried over to the next dump it specified in a PB_Carryover event. Also verify that carryover amounts and durations are consistent with those provided with scenario.
9. Verify that the Red and Yellow Limit checks are correct for the time between playbacks (Dur/Int field on PB_START) and the safety margin (Dur/Int field on PB_STOP)

2.11 Test Case: 11 Create a New Schedule

2.11.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.11.2 Test Information

Goal in Context:	The operator creates an empty schedule
Preconditions:	The SPLAT tool must be running.
Success End Condition:	A new blank schedule is created.
Failed End Condition:	The old schedule remains unchanged.
Primary Actor:	Operator

2.11.3 Test Scenario

1. Select the “New Schedule” option from the tool bar.
2. Verify that the tool raises a dialog box asking whether or not to save the current schedule.
    a. Selecting “Yes” causes another dialog to be displayed in which the observer can choose the name and location of the saved schedule.
    b. Selecting “No” causes the existing schedule to be deleted and a new schedule to be created and the timeline cleared.
    c. Selecting “Cancel” closes the dialog and leaves the existing schedule.

2.12 Test Case: 12 Customize Display/Print Layout of Schedule Data

2.12.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.12.2 Test Information

Goal in Context:	The Operator chooses which fields/events to display and/or print and the order in which these fields should be presented.
Preconditions:	None for customizing display of fields; However, a contact list must be created to filter by event type.
Success End Condition:	A schedule on the timeline or printed schedule reflecting the ordering and field selection specified by the operator.
Failed End Condition:	Incorrect fields are displayed or no fields are displayed at all.
Primary Actor:	Operator

2.12.3 Test Scenario

The following variations should be tested:

1. Hide Columns (Fields) on timeline.

   Directly on the timeline

   - Right mouse click on a column heading.
   - Uncheck a field to remove it from the timeline.

   Via the Filters UI

   - Select the Filters → Display Filter option from the Settings Menu.
   - In the Display Filter dialog, select the field option.
   - Select several of the visible fields (for multi-select, selections must be contiguous) and select the “Hide <<” button to move them to the available fields area.
   - Select the “Save” option and verify that the columns (fields) are removed from the timeline display.

2. Change the ordering of columns on the timeline.

   Directly on the timeline

   - Left click on a column heading and drag it to the desired position.

- Release mouse button and verify that column has moved.

Via the Filters UI

- Select the Filters → Display Filter options from the Settings Menu.
- In the Display Filter dialog, select the field option.
- Select one or more contiguous fields in the available window.
- Reorder them using the up or down options to move the selection up or down in the available list.
- Select the "Save" option and verify that the columns (fields) have been reordered on the timeline.

3. Hide Event types on the timeline.

- Enter scheduling options and create a contact list.
- Select the Filters → Display Filter option from the Settings Menu.
- In the Display Filter dialog, select the "Event Types" option.
- Select several of the visible events (for multi-select, selections must be contiguous) and select the "Hide <<" button to move them to the available events area.
- Select the "Save" option and verify that the Event types are removed from the timeline display.

4. Hide Columns (Fields) in a printed schedule.

- Enter Scheduling Options
- Create contact list
- Generate playback schedule
- Select the Filters → Print Filter option from the Settings Menu.
- In the Display Filter dialog, select the field option.
- Select several of the visible fields (for multi-select, selections must be contiguous) and select the "Hide <<" button to move them to the available fields area.
- Select the "Save" option.
- Select the "Print Schedule" option from the tool bar.
- Enter additional text if required and select the preview button.
- Verify that the displayed schedule contains only the selected columns.
- Close the schedule print preview.

5. Change the ordering of columns in a printed schedule.

- Enter Scheduling Options
- Create contact list
- Generate playback schedule
- Select the Filters → Print Filter option from the Settings Menu.
- In the Display Filter dialog, select the field option.
- Select several of the visible fields (for multi-select, selections must be contiguous)

- Reorder them using the up or down options to move the selection up or down in the available list.
- Select the “Save” option.
- Select the “Print Schedule” option from the tool bar.
- Enter additional text if required and select the preview button.
- Verify that the displayed schedule contains only the visible columns in the specified order.
- Close the schedule print preview.

6. Hide Event types in a printed schedule.

- Enter Scheduling Options
- Create contact list
- Generate playback schedule
- Select the Filters → Print Filter option from the Settings Menu.
- In the Display Filter dialog, select the “Event Types” option.
- Select several of the visible events (for multi-select, selections must be contiguous) and select the “Hide <<” button to move them to the available events area.
- Select the “Save” option.
- Select the “Print Schedule” option from the tool bar.
- Enter additional text if required and select the preview button.
- Verify that the displayed schedule contains only the visible columns in the specified order.
- Close the schedule print preview.

2.13 Test Case: 13 Edit Modeling Parameters

2.13.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.13.2 Test Information

Goal in Context:	Operator changes parameter values affecting schedule generation
Preconditions:	None
Success End Condition:	Successfully modified set of modeling parameters
Failed End Condition:	Modeling parameters left unchanged.
Primary Actor:	Operator

2.13.3 Test Scenario

The following variations need to be tested:

1. Modify an Instrument Imaging Rate.

    - Select the “Modeling Parameters” option from the “Settings” menu.
    - Modify one or more of the instrument rates.
    - Select the “Save” option.
    - Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
    - Generate a schedule and verify that imaging rate change is reflected properly.

2. Change the Superset capacity of SSR Buffers.

    - Select the “Modeling Parameters” option from the “Settings” menu.
    - Modify one or more of the buffer capacity settings.
    - Select the “Save” option.
    - Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
    - Generate a schedule and verify that buffer capacity is reflected properly.

3. Change the MODIS and MISR Night and Day offsets.

    - Select the “Modeling Parameters” option from the “Settings” menu.
    - Modify the settings for MISR and MODIS day/night offsets.
    - Select the “Save” option.

- Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
- Enter scheduling options and create a contact list.
- Verify that MODIS and MISR day night events are offset the proper distance from NADIR_TERM_CROSSING events in the Orbital Events Report.

4. Change the PBFLEX dump time allocation priority.

   - Select the “Modeling Parameters” option from the “Settings” menu.
   - Select one or more of the entries in “Dump Time Allocation Priority (PBFLEX)” window.
   - Move the selection up or down to reorder the priority.
   - Select the “Save” option.
   - Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
   - Generate a schedule and verify that the dump time allocation priority has changed.

5. Modify the Playback offset from the start of a dump.

   - Select the “Modeling Parameters” option from the “Settings” menu.
   - Modify the playback offset setting.
   - Select the “Save” option.
   - Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
   - Generate a schedule.
   - Verify that playbacks are offset by the specified amount from the start of dump windows.

6. Modify the ASTER Automated Imaging Rate Settings

   - Select the “Modeling Parameters” option from the “Settings” menu.
   - Select the “Aster Imaging Rates” Button
   - Modify one or more of the ASTER Auto Imaging Rates, changing which instruments are used, and when they turn on/off.
   - Select Automated Aster modeling
   - Select the “Save” option.
   - Verify that “Save Schedule Option” and “Generate SSR Playbacks” option are disabled.
   - Generate a schedule
   - Verify that changes to ASTER Imaging rate are reflected in schedule.

2.14 Test Case: 14 Modify ASSET Preferences

2.14.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.14.2 Test Information

Goal in Context:	The operator changes the appearance of the ASSET windows and timeline.
Preconditions:	None
Success End Condition:	An Operator customized version of the ASSET tool.
Failed End Condition:	ASSET default settings remain.
Primary Actor:	Operator

2.14.3 Test Scenario

The following variations need to be tested:

1 Change the ASSET look and feel.

- Select the “Preferences” option from the “Settings” menu.
- Select the “General” Tab from the preferences dialog.
- Select one of the available options for “look and feel” (Java Look and Feel, CDE/Motif, Windows)
- Select the “Ok” or “Apply” option.
- Verify that look and feel of the tool has been modified according to the selection.

2 Modify the miscellaneous preferences for ASSET

- Select the “Preferences” option from the “Settings” menu.
- Select the “Miscellaneous” Tab from the preferences dialog.
- De-select the “Show Advanced Edits” checkbox.
- Select the “Ok” or “Apply” option.
- Select the “Modeling Parameters” option from the “Settings” menu.
- Verify that only buffer capacities are shown.
- Select whether or not to have ASSET automatically save column widths when they are changed.
- Select the font size for the timeline display.
- Select the maximum number of recent schedules displayed in the file menu.

3 Set the default directory paths for input reports, saved schedules, and print header data.

- Select the “Preferences” option from the “Settings” menu.
- Select the “General” Tab from the preferences dialog.
- Select the “Browse” button next to the “Report Directory” entry and select the location for input reports.
- Select the “Browse” button next to the “Data Directory” entry and select the location for output.
- Select the “Browse” button next to the “Print Header” entry and select the location of the text file containing default print header information.
- Select the “Ok” button.
- Select the “Scheduling Options” option from the “File” menu.
- Select the “Select Reports” option from the Scheduling Options Menu.
- Select the browse button next to one of the input reports.
- Verify that the default directory displayed in the open dialog is the one selected for input reports.
- Select input reports and scheduling options.
- Create contact list.
- Generate schedule.
- Select “Save Schedule as Text” option from the toolbar.
- Verify that directory specified in save dialog box is the same as the data directory specified earlier.

4 Select the timeline event colors and font size.

- Select the “Preferences” option from the “Settings” menu.
- Select the “Miscellaneous” Tab from the preferences dialog.
- Change the font size.
- Select the “Timeline Color” tab.
- Select the “Choose Color” option next to one of the event types.
- In the color selection dialog, select how to display the color (RGB, HSB, Swatches)
- Select the appropriate color.
- Select the “Ok” option in the color selection dialog.
- Select the “Ok” button in the Preferences dialog.
- Verify that the font size has changed for entries in the timeline and that the event type for which the color was modified now displays correctly.

5 Reset the SPLAT preferences.

- Select the “Preferences” option from the “Settings” menu.
- Select the “General” Tab from the preferences dialog.
- Select the “Reset” button.
- Verify that the input report location and data directory are cleared.

2.15 Test Case: 15 Print the Current Schedule

2.15.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.15.2 Test Information

Goal in Context:	Operator prints the current playback schedule
Preconditions:	A generated schedule must be loaded/displayed on the timeline.
Success End Condition:	A hardcopy of the current schedule, filtered per the selected print filters.
Failed End Condition:	No hardcopy is generated.
Primary Actor:	Operator

2.15.3 Test Scenario

1. Select the “Scheduling Options” operation from the tool bar.
2. Enter the scheduling options.
3. Select the “Create Contacts” operation from the tool bar.
4. Select the “Generate SSR Playbacks” operation from the tool bar.
5. Select the Filters → Print Filter option from the Settings menu
6. Modify the Print filters.
7. Select the “Print Current Schedule” option from the toolbar.
8. Verify that the additional text from the print header file is present in the provided field.
9. Modify the additional text as required.
10. Select the “Preview” button.
11. When the Print Preview is displayed, verify that the hardcopy contains all selected fields, etc.
12. Verify that all Playback Start and Playback Carryover events are displayed in BOLD font.
13. Select the “Print” option from the tool bar.
14. Select “print” when the printer dialog box is raised.
15. Retrieve printout and verify content/layout.

2.16 Test Case: 16 Save Current Schedule

2.16.1 Relevant Builds

This test case is applicable to all releases of ASSET.

2.16.2 Test Information

Goal in Context:	Operator chooses to save the current schedule to disk.
Preconditions:	A playback schedule must be generated.
Success End Condition:	Ether a binary or textual representation of the current schedule is saved to disk.
Failed End Condition:	The schedule is not saved.
Primary Actor:	Operator

2.16.3 Test Scenario

The following variations must be addressed:

1 Save the schedule as text.

- Select the “Save” option from the main toolbar.
- In the Save dialog box, browse to the desired location, and specify a name for the saved report.
- Select Text Files for the Files of Type Option
- Select the “Save” button.
- Verify that schedule has been saved as text and that all events and fields are contained in the text file.

2 Save the schedule as binary.

- Select the “Save” option from the main toolbar.
- In the Save dialog box, browse to the desired location, and specify a name for the saved report.
- Select the Asset Files option for the “Files of Type” setting.
- Select the “Save” button.
- Verify that schedule has been saved as “xxx.asset”.

2.17 Test Case: 17 Test Red and Yellow Limits

2.17.1 Test Information

Goal in Context:	Operator modifies the Red and Yellow limits and tests to see that they are correctly applied during schedule generation.
Preconditions:	A contact list must be created.
Success End Condition:	A playback schedule with the red and yellow limits correctly applied..
Failed End Condition:	A playback schedule with incorrect red and yellow limits.
Primary Actor:	Operator

2.17.2 Test Scenario

1. Select the “Red & Yellow Limits” option from the Settings Menu.
2. In the Limits UI, change the Red and Yellow Limits for one or more of the buffers or for playback delta or safety margin.
3. Select the “Save” button on the Limits UI.
4. Select the “Generate Schedule” button.
5. Verify that the generated schedule reflects the red and yellow limit settings.
    a. If the buffer full percentages do not exceed the limit settings, the operator modifies dump window playback percentages in one or more preceding dump windows causing enough carryover from one playback to another to force buffer usages beyond limits.
    b. Verify that yellow and red limits are applied correctly during schedule generation.
    c. If a buffer usage exceeds a limit, the buffer usage column will be color coded either yellow or red and the corresponding buffer “xxx_lim” field will have a text field color coded accordingly with a text message indicating which limit was exceeded.
    d. Verify that the red and yellow limit settings are correct for time between playbacks and playback safety margin.

2.18 Test Case: 18 Reload a Saved Schedule

2.18.1 Test Information

Goal in Context:	Operator reloads a previously saved binary schedule.
Preconditions:	A saved binary schedule
Success End Condition:	A previously saved binary schedule is reloaded onto the timeline.
Failed End Condition:	No playback schedule is reloaded.
Primary Actor:	Operator

2.18.2 Test Scenario

1. Select the “Open” option from the File menu and browse for a saved schedule to reload.
2. Selects the “Open” option to load the schedule.
3. Verify that the schedule loaded correctly.

2.19 Test Case: 19 Selection of Contacts for Dump Scheduling

2.19.1 Test Information

Goal in Context:	Operator modifies the list of TDRS and GN contacts, selecting which contacts can and cannot be used for dumping the SSR buffers.
Preconditions:	Scheduling Parameters and Reports have been selected
Success End Condition:	A contact list that correctly reflects the user specified settings for schedulable contact types.
Failed End Condition:	A contact list that contains dump windows scheduled in contacts that are not allowed for scheduling.
Primary Actor:	Operator

2.19.2 Test Scenario

The following variations must be tested:

1. Modification of an existing contact scheduling setting:

   - Select the Station Management option from the Settings menu.
   - Scroll through the available list of stations, modifying one or more of the contact scheduling settings. A check in the "Schedule Playback?" box indicates that the ASSET tool will schedule playbacks in this type of contact. No check in the box indicates that the tool will not schedule a playback in the contact type.
   - Select the "Close" option.
   - Verify that the Schedule Generation feature is disabled.
   - Select the "Create Contacts" Option from the tool bar.
   - Select the "Generate SSR Playbacks" button.
   - Verify that the generated schedule displayed on the timeline contains playbacks in the contacts selected and any contact types not listed in the Station Management dialog.

2. Adding and new contact type to the list of contacts:

   - Select the Station Management option from the Settings menu.
   - Enter a text name, type of contact and selects whether or not to schedule playbacks in the contact into the available fields at the bottom of the dialog window.
   - Select the "Add" button and verifies that the new contact type is displayed in the list of available contact types.
   - Select the "Close" option.
   - Verify that the Schedule Generation option is disabled.
   - Select the "Create Contacts" option from the toolbar
   - Select the "Generate SSR Playbacks" option from the main window.
   - Verify that the schedule on the timeline contains playbacks in the specified contact types.

2.20 Test Case: 20 Configurable Dump Window Offsets

2.20.1 Test Information

Goal in Context:	Operator modifies the Dump window offsets within TDRS and ground contacts and creates a schedule to see that the modifications have been correctly applied.
Preconditions:	Scheduling Options and input reports must be specified.
Success End Condition:	A playback schedule with the dump window offsets correctly applied.
Failed End Condition:	A playback schedule with incorrect dump window offsets.
Primary Actor:	Operator

2.20.2 Test Scenario

1. Select the “Dump Window Offsets” option from the Settings Menu.
2. Modify one or more of the dump window offsets.
3. Select the “Save” option.
4. Select the “Create Contacts” option from the tool bar.
5. Verify that the dump windows selected by the tool are correctly placed in the contacts relative to the selected dump window offsets.

2.21 Test Case: 21 Multiple Input Reports Support

2.21.1 Test Information

Goal in Context:	Operator specifies multiple reports for one or more input report And ensures that the schedule is generated correctly.
Preconditions:	None.
Success End Condition:	A playback schedule that spans multiple input reports and does Not contain duplicate events.
Failed End Condition:	No playback schedule or a schedule that contains duplicate entries if overlapping files are specified.
Primary Actor:	Operator

2.21.2 Test Scenario

1. Specify a scheduling window start and stop in the Scheduling Options dialog that spans multiple input reports of one or more type.
2. Select the “Select Reports” option from the scheduling parameters dialog.
3. Select the “Select” button adjacent to one of the input report types.
4. Select the “Add File” button in the raised dialog.
5. Select one or more report files of the specified type in the file browser dialog.
6. Select the “Select” option.
7. Verify in the input reports dialog that the report counter associated with the input report type specified contains the correct number of reports selects.
8. Select the “Save” option.
9. Repeat steps 3 through 8 for each input report type.
10. Select the “Ok” button.
11. Select the “Create Contacts” option from the toolbar.
12. Selects the “Generate SSR Playbacks” option from the toolbar.
13. Review the timeline verifying that the created schedule contains all events in the time period.
14. Verify that overlapping data in reports is not duplicated on the timeline.

2.22 Test Case: 22 Overlapping Ground and TDRS Contacts

2.22.1 Test Information

Goal in Context:	Operator generates a schedule and ensures that overlapping Ground contacts and overlapping TDRS and ground contacts are handled correctly.
Preconditions:	None.
Success End Condition:	A playback schedule with the all overlapping ground and TDRS Contacts correctly handled.
Failed End Condition:	A playback schedule with incorrect dump windows and playbacks.
Primary Actor:	Operator

2.22.2 Test Scenario

1. Specify a time period and input reports containing overlapping TDRS and/or ground contacts.
2. Select the “Create Contacts” option from the tool bar.
3. Select the “Generate SSR Playbacks” option from the tool bar.
4. Verify that overlapping ground contacts and overlapping TDRS and ground contacts behave as follows:
    a. If two ground contacts overlap one another, the ASSET tool will treat the two contacts as one large contact allowing a single dump window to span the two contact periods.
    b. If a TDRS and a ground contact overlap one another, the tool will always give preference to the TDRS contact for scheduling playbacks. Review the schedule and ensure the following:
        i. If the TDRS contact precedes the ground contact on the timeline, the TDRS playback is allotted the time needed to playback all data, and the ground contact playback is limited to start no sooner than the end of the TDRS playback.
        ii. If the Ground contact precedes the TDRS contact, the playback for the ground contact must stop before the beginning of the TDRS contact.

2.23 Test Case: 23 Partial 4000 Identification and Scheduling

2.23.1 Test Information

Goal in Context:	Operator generates a schedule and ensures that all possible contacts where Partial 4000 playbacks are required have been identified and correctly scheduled.
Preconditions:	Scheduling options and input reports have been specified.
Success End Condition:	A playback schedule with the Partial 4000 rules correctly applied.
Failed End Condition:	A playback schedule with incorrect playbacks.
Primary Actor:	Operator

2.23.2 Test Scenario

The following scenarios must be tested using the MODIS, MISR, and ASTER buffer as the first buffer replayed.

1. All Dump Windows using the Default Partial 4000 scheduling option

   - Select the default action for Partial 4000 scheduling in the scheduling options dialog. Not selecting this option indicates that checks for Partial 4000 scheduling will be disabled for all playbacks. Selected indicates the checked will be made for each playback scheduled.
   - Choose the “Save” options from the scheduling options dialog.
   - Select the “Create Contacts” option from the tool bar.
   - Select the “Generate Schedule” option from the tool bar.
   - If the Partial 4000 scheduling option was selected, review the playbacks on the time and verify that a Partial 4000 occurs when the following buffer usages occur:

Buffer	Usage	Partial Playback %
MODIS	95.3%	29%
MISR	91.6%	52.2%
ASTER	97.1%	18%

2. Modification of an individual Dump Window Partial 4000 scheduling option

   - After specifying the default action for Partial 4000 scheduling, generate a schedule and verify that all playbacks matching the buffer limits detailed in Step 5 of the previous scenario contain Partial 4000 playbacks.
   - Select the “Edit” button associated with an individual playback on the time containing a Partial 4000 playback.
   - Disable the Partial 4000 playback check for the dump window and select the “Save” option.

- Review the re-generated schedule and verify that the Partial 4000 playback has been removed from the modified dump window.

2.24 Test Case: 24 Resetting Values to Default Settings

2.24.1 Test Information

Goal in Context:	Operator has incorrectly modified one or more settings and Would like to reset the values to the default settings..
Preconditions:	None.
Success End Condition:	The settings have been restored to the factory defaults.
Failed End Condition:	The settings are different from the defaults.
Primary Actor:	Operator

2.24.2 Test Scenario

The following scenario should be tested for the following dialogs:

- Aster Auto Imaging Rates
- Red & Yellow Limits
- Modeling Parameters
- Station Management
- Dump Windows Offset
- Print Column Widths

1. Select one of the aforementioned setting dialogs from the Settings menu.
2. Modify one or more of the settings.
3. Close the dialog.
4. Generate a schedule with the new settings.
5. Verify that the schedule has changed
6. Reopen the dialog in which the modification was made.
7. Select the reset button and verify that the settings in the dialog return to the factory default values.

2.25 Test Case: 25 Setting Timeline Column Widths

2.25.1 Test Information

Goal in Context:	Operator modifies the size of one or more timeline columns and wishes to save the changes for future runs.
Preconditions:	None.
Success End Condition:	The column widths have been saved.
Failed End Condition:	The column widths on the next run are not as previously saved..
Primary Actor:	Operator

2.25.2 Test Scenario

1. Left click on the border for one or more of the timeline column headings and adjust to desired size.
2. Select the "Columns → Save Timeline Columns option from the settings menu.
3. Quit ASSET.
4. Restart ASSET and verify that the column widths match those saved.

2.26 Test Case: 26 Setting Printed Column Widths

2.26.1 Test Information

Goal in Context:	Operator specifies custom widths for field columns in a printed Schedule.
Preconditions:	None.
Success End Condition:	A printed schedule containing the modified column settings.
Failed End Condition:	A printed schedule with incorrect column settings.
Primary Actor:	Operator

2.26.2 Test Scenario

1. Select the Columns → Set Print Column Widths from the Settings Menu
2. Select a column type from the drop down menu.
3. Specify a column width in the text box.
4. Select the preview button to view a preview of the printed schedule.
5. Select Save when all the desired column width changes have been made.

2.27 Test Case: 27 Retrieving Reports for MMS

2.27.1 Test Information

Goal in Context:	Operator specifies MMS as the location for the input Reports and ASSET retrieves the necessary reports. Schedule.
Preconditions:	The start and stop times for the schedule must be specified.
Success End Condition:	The required reports are successfully retrieved from MMS and stored locally.
Failed End Condition:	An error dialog is displayed indicating an error condition.
Primary Actor:	Operator

2.27.2 Test Scenario

1. Select the MMS option for Reports Location in the Scheduling Options dialog.
2. Verify that the tool displays a dialog indicating the status of report retrieval.
3. Verify that when retrieval is complete the system displays either an error status indicating where to view the problems or a dialog indicating the successful completion of the file transfer.
4. Select the “Select Reports” option and verify that the correct files have been retrieved.
5. Close the Scheduling Options dialog.
6. Select the “Create Contacts” option from the ASSET toolbar.
7. Select the “Generate SSR Playbacks” option from the ASSET toolbar and verify that the correct range of data was retrieved.